

REMARKS

I. Introduction

By the present Amendment, claim 1 has been amended, and claim 2 cancelled. Accordingly, claims 1 and 3-6 remain pending in the application. Claim 1 is independent.

II. Office Action Summary

In the Office Action of April 22, 2008, claims 1-6 were rejected under 35 USC §112, first paragraph, as failing to comply with the written description requirement. The Drawings were objected to under 37 CFR §1.83(a) for failing to show every feature of the invention specified in the claims. Claims 1-6 were rejected under 35 USC §102(b) as being anticipated by, or in the alternative, under 35 USC §103(a) as being obvious over U.S. Patent No. 5,868,675 issued to Henrion et al. ("Henrion"). These rejections are respectfully traversed.

III. Rejections under 35 USC §112

Claims 1-6 were rejected under 35 USC §112, first paragraph, as failing to comply with the written description requirement. Regarding this rejection, the Office Action indicates that the claims contain subject matter which was not described in the Specification in such a way as to enable one skilled in the art to which it pertains to make and/or use the invention. In particular, the Office Action indicates that the Specification does not provide support for the limitation of "wherein said position indicating means and said three-dimensional positional measuring means are fixed on a common base."

By the present Amendment, Applicants have amended the claims, in part, to clarify the claim language and indicate how this feature is supported by the Specification. Specifically, independent claim 1 has been amended to indicate that the position indicating means includes a pair of laser beam emitting means. As discussed in the Specification and illustrated in the Drawings, the three-dimensional position measuring means (7) and the two laser beam emitting means (8a, 8b) are mounted on the same base (9). See Fig. 2 and paragraphs [0020] and [0021] of the published application.

Applicants therefore respectfully submit that the amendments to independent claim 1 clarify the features of the invention so that they are fully supported by the Specification. Withdrawal of this rejection is therefore respectfully requested.

IV. Objections to the Drawings

The Drawings were objected to under 37 CFR §1.83(a) for failing to show every feature of the invention specified in the claims. Regarding this objection, the Office Action indicates that none of the drawings includes a reference number for the caster, as recited in claim 3.

Concurrently submitted herewith, is a Replacement Drawing Sheet containing Figs. 2 and 3. Fig. 2 has been amended to incorporate reference numbers for the casters.

Withdrawal of this objection is therefore respectfully requested.

V. Rejections under 35 USC §102

Claims 1-6 were rejected under 35 USC §102(b) as being anticipated by, or in the alternative, under 35 USC §103(a) as being obvious over Henrion. Regarding this rejection, the Office Action indicates that Henrion discloses a position measuring

system having all the limitations set forth in the pending claims. In particular, the Office Action alleges that the position measuring system of Henrion includes a position indicating means which is able to indicate a position and direction of a tool, and a three-dimensional position measuring means that is able to measure a position and direction of a surgical field. The Office Action also asserts that the position indicating means and three-dimensional position measuring means of Henrion are fixed on a base or a table.

By the present Amendment, Applicants have amended independent claim 1 to better clarify the claimed invention and incorporate features that are not shown or suggested by the art of record. As amended, independent claim 1 defines a position measuring apparatus for measuring a position of a tool and indicating a position where the tool is working. The position measuring apparatus comprises:

- a position indicating means for indicating a position and a direction of a tool, said position indicating means comprising a pair of laser beam emitting means for emitting respective laser beams that intersect at one of a surgical field of a patient and a predetermined portion of the tool;

- a three-dimensional position measuring means for measuring a position and a direction of a surgical field and also the position and the direction of said tool, said position indicating means and said three-dimensional position measuring means being fixed on a common base, so that relative positional relationship therebetween is constant; and

- a control unit for controlling operation of said position indicating means and said three-dimensional position measuring means;

- wherein said control unit controls said pair of laser beam emitting means to emit the respective laser beams to intersect at an intersection point on the surgical field of the patient which identifies a placement location for the tool, and

- wherein, after the tool has been moved to the placement location, said control unit controls said pair of laser beam emitting means to emit the respective laser beams on the predetermined portion of the tool.

According to independent claim 1, the position measuring apparatus includes a position indicating means, a three-dimensional position measuring means, and a control unit. The position indicating means is used to indicate a position and direction of a tool and includes a pair of laser beam emitting means. The laser beam emitting means emit respective laser beams that intersect at either a surgical field of the patient or a predetermined portion of the tool. The three-dimensional position measuring means measures a position and direction of the surgical field as well as the position and direction of the tool. Furthermore, the position indicating means and the three-dimensional position measuring means are fixed on a common base so that the relative positional relationship between them remains constant. The control unit controls operation of the position indicating means and the three-dimensional position measuring means.

According to independent claim 1, the control unit controls the pair of laser emitting means to emit the laser beams to intersect at an intersection point on the surgical field of the patient. This intersection point is used to indicate a placement location for the tool. Furthermore, after the tool has been moved to the placement location, the control unit controls the pair of laser emitting means to emit the respective laser beams on the predetermined portion of the tool. According to such an arrangement, it is possible to place the surgical tool at the appropriate position and direction on the target. Furthermore, a surgeon is able to perform the necessary surgical procedures while visually confirming the location and orientation of the surgical tool without having to rely on a monitor display. See paragraphs [0052] and [0053].

The Office Action had previously indicated that Henrion discloses all the features recited in independent claim 1. Applicants' review of Henrion, however, has

failed to reveal any disclosure or suggestion for some of the features that have been newly incorporated into independent claim 1. In particular, Applicants note that the Office Action never indicated where Henrion disclosed a position indicating means that comprises at least two laser beam emitting means. Furthermore, Henrion does not appear to provide a control unit that controls the laser emitting means to emit their respective laser beams to intersect at an intersection point on the surgical field of the patient that identifies a placement location for the tool. Henrion also does not appear to provide an ability to control the laser beam emitting means to emit the laser beams on the predetermined portion of the tool after the tool has been moved to the placement location. Henrion simply fails to provide any disclosure or suggestion for features recited in independent claim 1, such as:

a control unit for controlling operation of said position indicating means and said three-dimensional position measuring means;

wherein said control unit controls said pair of laser beam emitting means to emit the respective laser beams to intersect at an intersection point on the surgical field of the patient which identifies a placement location for the tool, and

wherein, after the tool has been moved to the placement location, said control unit controls said pair of laser beam emitting means to emit the respective laser beams on the predetermined portion of the tool.

It is therefore respectfully submitted that independent claim 1 is allowable over the art of record.

Claims 3-6 depend from independent claim 1, and are therefore believed allowable for at least the reasons set forth above with respect to independent claim 1. In addition, these claims each introduce novel elements that independently render them patentable over the art of record.

VI. Conclusion


For the reasons stated above, it is respectfully submitted that all of the pending claims are now in condition for allowance. Therefore, the issuance of a Notice of Allowance is believed in order, and courteously solicited.

If the Examiner believes that there are any matters which can be resolved by way of either a personal or telephone interview, the Examiner is invited to contact Applicants' undersigned attorney at the number indicated below.

AUTHORIZATION

Applicants request any shortage or excess in fees in connection with the filing of this paper, including extension of time fees, and for which no other form of payment is offered, be charged or credited to Deposit Account No. 01-2135 (Case: 520.43276X00).

Respectfully submitted,
ANTONELLI, TERRY, STOUT & KRAUS, LLP.

/Leonid D. Thenor/ 
Leonid D. Thenor
Registration No. 39,397

LDT/vvr
1300 N. Seventeenth Street
Suite 1800
Arlington, Virginia 22209
Tel: 703-312-6600
Fax: 703-312-6666

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Attachment: Drawing Replacement Sheet (1)